
ADHERENT METAL OXIDE COATING FORMING A HIGH SURFACE AREA ELECTRODE

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ABSTRACT

An implantable electrode and method for manufacturing the electrode wherein the electrode has a strong, adherent surface coating of iridium oxide or titanium nitride on a platinum surface, which demonstrates an increase in surface area of at least five times when compared to smooth platinum of the same geometry. The iridium oxide coating may be formed on platinum by a physical deposition process, such as sputtering. The process of electroplating the iridium oxide surface coating is accomplished by voltage control processes. A gradient coating of iridium oxide ranging in composition from essentially pure platinum to essentially pure iridium oxide is produced by sputtering.